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Analysis of Organisation and Logistics behind the Postgraduate Certificate in Antarctic Studies Programme

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Abstract/executive summary:

It is hard for students to appreciate the effort that goes on behind the scenes to organise a university programme that includes a trip to Antarctica. The aim of this study is to analyse the current management and organisation of the 2012/2013 Postgraduate Certificate in Antarctic Studies (PCAS) programme and the logistics behind it. The logistical issues will be reviewed, based on four framework topics: (1) the meaning of logistics; (2) teaching and learning methods; (3) group behaviour in remote environments and (4) the effectiveness of these three themes relating to the PCAS aims. These issues are grounded on the positive relationship between Gateway Antarctica (GA), Antarctica NZ (ANZ) and the 2012/2013 PCAS students, where concerns around the need for precise archiving of documents, clarity of what Antarctic Field Training (AFT) incorporates, changes to the date PCAS goes to Antarctica and assessment and classroom concerns from students, are examined. Time constraints are prevalent when addressing these issues, but implementing these recommendations, such as GA hiring an extra assistant to archive documents, or ANZ compiling a checklist for AFT training, can aid towards more efficient logistics for PCAS. Continuing communication among all three parties is vital to the programme's success and should not be underestimated.

Analysis of Organisation and Logistics behind the Postgraduate Certificate in Antarctic Studies Programme

PCAS 2012/2013 Supervised Project Report

(ANTA 604)

University of Canterbury

Gateway Antarctica

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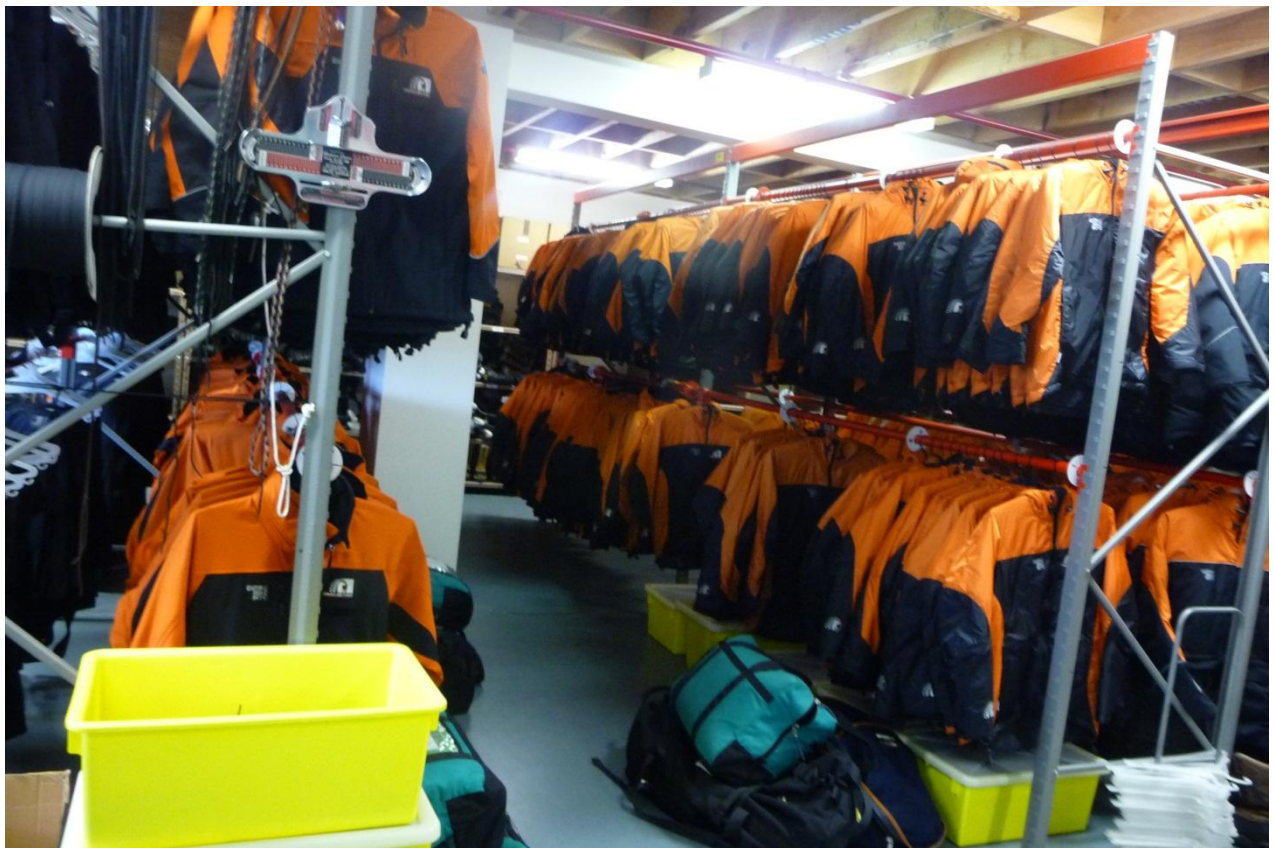


Image: Antarctica New Zealand's clothing warehouse where everyone who goes to Antarctica through the New Zealand Programme receives their clothing.

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Abstract

It is hard for students to appreciate the effort that goes on behind the scenes to organise a university programme that includes a trip to Antarctica. The aim of this study is to analyse the current management and organisation of the 2012/2013 Postgraduate Certificate in Antarctic Studies (PCAS) programme and the logistics behind it. The logistical issues will be reviewed, based on four framework topics: (1) the meaning of logistics; (2) teaching and learning methods; (3) group behaviour in remote environments and (4) the effectiveness of these three themes relating to the PCAS aims. These issues are grounded on the positive relationship between Gateway Antarctica (GA), Antarctica NZ (ANZ) and the 2012/2013 PCAS students, where concerns around the need for precise archiving of documents, clarity of what Antarctic Field Training (AFT) incorporates, changes to the date PCAS goes to Antarctica and assessment and classroom concerns from students, are examined. Time constraints are prevalent when addressing these issues, but implementing these recommendations, such as GA hiring an extra assistant to archive documents, or ANZ compiling a checklist for AFT training, can aid towards more efficient logistics for PCAS. Continuing communication among all three parties is vital to the programme's success and should not be underestimated.

Introduction

On the surface, the finished product such as a lecturer presenting a lecture in the classroom or the smooth transition from being in New Zealand to doing field work in Antarctica, may be taken for granted. However 'behind the scenes' various parties have put a lot of work into making the programme a reality. The logistics of running any postgraduate programme with a major overseas field trip component is challenging for any university or organisation. These challenges range from staff providing a broad range of lecture topics to be covered in a friendly, interactive environment, in order to promote deeper learning for the students, to the fostering of healthy group behaviour in remote environments. The PCAS programme objective is to nurture up-coming scientists in the field of Antarctic Studies through the programme's aims, as follows:

- 1. Provide students with sufficient background to understand interdisciplinary issues in relation to Antarctica and the Southern Ocean.*
- 2. Engage students in critical examinations of a selection of the contemporary scientific, environment, social and political debates with respect to Antarctica and the Southern Ocean.*
- 3. Translate classroom learning into practical field studies in Antarctica and introduce participants to the constraints of working in extreme conditions.*

(University of Canterbury 2012, p. 2)

PCAS is a 14 week intensive summer programme that

“has been developed jointly by the University of Canterbury (Gateway Antarctica) and Antarctica New Zealand with significant input from 40 individuals, government agencies and a wider international Antarctic community” (University of Canterbury 2012).

The PCAS programme includes a field trip to Antarctica for two weeks to foster hands-on learning in the field. Both the organisation of the postgraduate academic lectures and the preparation for the Antarctic field trip component require large amounts of logistical management. This programme promotes a multi-disciplinary perspective, with debates and student interaction. The programme is mainly lectures, predominantly in a classroom environment, on critical issues that Antarctica faces. The 13 students for the 2012/2013 year were drawn from all backgrounds of undergraduate studies, including science, arts, humanities, law, policy, commerce, engineering, education, social science and technology.

Aim and Context

The aim of this study is to analyse the current management and organisation of PCAS and the logistics behind it. The outline of this study is based around four main themes: the meaning of logistics; teaching and learning methods; group behaviour in remote environments and the effectiveness of these four themes relating to the PCAS aims. Using these themes as a framework, the five main issues that will be discussed are: (1) the positive relationships between ANZ, GA and 2012/2013 students; (2) documentation and administration issues; (3) Antarctic Field Training (AFT) issues; (4) potential changes to the PCAS Antarctic field trip component and (5) student issues raised. The issues raised have led to recommendations for improvements in the future. There are various groups involved in the organisation of PCAS, all who have different roles to play. This study is constructed in a way that can benefit all parties involved with helping run PCAS successfully, from those smaller groups involved, such as Horizon First Aid, who come in for two days to do outdoor first aid training, to the main Antarctic Programme of ANZ and GA.

PCAS is a very intense, unique programme where students, who do not know each other prior to the programme, are drawn together through a common interest of striving to know more about Antarctica. To make this programme successful, individual components need to run smoothly in order to achieve the programme's aim's. The four main areas are,

1. Logistics
2. Teaching methods and the learning of the students
3. Group behaviour in remote environments
4. Effectiveness

1. Logistics

When the word “logistics” is heard, people automatically think of goods and services being shifted from point *A* to point *B*, involving time and money. It is the job of many specialised areas to undertake this duty, such as business management, material management, physical distribution and supply management. In order to create a framework toward understanding logistics, it is necessary to explore various definitions.

“Logistics implies that a number of separate activities are coordinated” (Encyclopaedia Britannica, n.d.). The Logistics World defines it as “the science of planning, organizing and managing activities that provide goods or services” (Logistics World 1997). “The purpose of the logistical system is to control the flow of raw material and finished product with a goal of doing it at the lowest possible total cost expenditure” (Bowersox 1974, p. 14). The logistics manager has the fundamental responsibility to design an operating system (in this study, the programme coordinator of PCAS) capable of realising how to do it most effectively.

Lamber et al (1998) emphasises the most important part of the strategic logistical system is the roles of individual employees. Without being able to rely on the effective productivity of the logistics department, businesses and organisations would cease to exist. Steers (1975) reveals that in order to keep aiming for improvements, those in charge struggle with conflicting objectives of “either striving for efficiency or for effectiveness” (Mentzer & Fugate 2010, p. 43). Fisher (1997) analyses Mentzer & Fugate’s research findings, revealing that there is not an ‘either-or’ relationship between efficiency and effectiveness. Pursuing one does not negate the other, but strengthens both.

‘Logistics’ is a constantly evolving system. The Logistics World’s definition of effective logistics will be used as an overarching definition, incorporating the PCAS management and coordination. This includes administration, health and safety for students, organising lectures, field trips, and the overseas Antarctic field component, involving supply logistics from ANZ.

2. Teaching Methods and Learning of Students

Teaching and learning at a postgraduate level comes with many challenges. Beattie & James (1997) reveal that academics teaching postgraduate level face difficult decisions on how to be flexible when delivering course content. Biggs & Tang (2007) suggest an integrated approach of delivery provides for a rounded learning experience for the learner. These integrated methods range from a deep approach of being allowed to reflect or produce an argument on the material learnt, down to a surface approach of memorising facts and figures. In all learning there is a place for these approaches, but giving the students the opportunity to develop these skills is the most

important. Biggs and Tang (1997) separate three main determinants of learning and teaching: (1) What the students are - the teacher's role is to display information and the students' role is to absorb it; (2) What the teachers do - explains and presents concepts and principles which involves skills and technique. This focuses on what the teacher does rather than on what the student does; (3) What the students do – are they engaging in the learning activities most likely to lead to the intended outcome? At postgraduate level the most common approach is (1). Students are expected to have the motivation and skills to absorb information and learn from it in any capacity that the tutor chooses to conduct the lecture. Approach (3) is also recognised in the teaching of PCAS through attending field trips within Christchurch and to Antarctica to complete the three programme aims.

In every discipline there are various social methods that outline that discipline's way of interpreting the world. This ranges from conflicting ideas of 'social positivism', where there is only one real way to do something, through to 'social constructivism', a belief that there are many ways of doing something. Hanson & Sinclair (2007) believe that the best way to learning social constructive teaching methods is through problem-based learning, case-based instruction or collaborative research projects. This requires students to construct or create knowledge proactively by engaging with realistic problems. This approach to teaching, through the use of realistic problems, has been adopted by PCAS through aims one, two and three, using terms such as "*critical examinations, translate classroom learning into practical field studies and debates*" (University of Canterbury 2012, p. 2). In order to achieve these goals, syndicate projects were set where an engaging and realistic topic was set in order to present and discuss in a group. As a learner, group work can be a daunting project to undertake. This involves cooperation, management of time around other people, while working towards a shared goal. However, it does pose problems in group dynamics, such as the "free-rider" problem and "sucker effect" (Davies 2009, p. 567). Morris & Hayes (1997) describe free-riding as a problem where a non-performing group member reaps the benefits of the accomplishments of the rest of the group. Kerr (1983) describes the sucker effect as individuals responding to others free-riding upon their efforts by free-riding themselves. Although there may be negative aspects to group work, there are more positives.

Deakin et al (2013) states that even without having to complete group work, 'peer-to-peer' learning naturally occurs amongst postgraduate students. This is where Boud et al., (2001) describes it as two-way reciprocal learning, where the environments facilitate the sharing of knowledge, ideas and experience. In the case of PCAS, the environments were the classroom and the field in Antarctica. Peer-to-peer learning within the PCAS group is encouraged through the group syndicate presentation assessment, and the necessity to get along with each other, going into such a remote environment as Antarctica. If a participant of PCAS were to free-ride in such

an environment, not only would it be unfair, but consequences to group learning as a whole would be compromised by issue in conflict.

3. Group Behaviour and Remote Environments

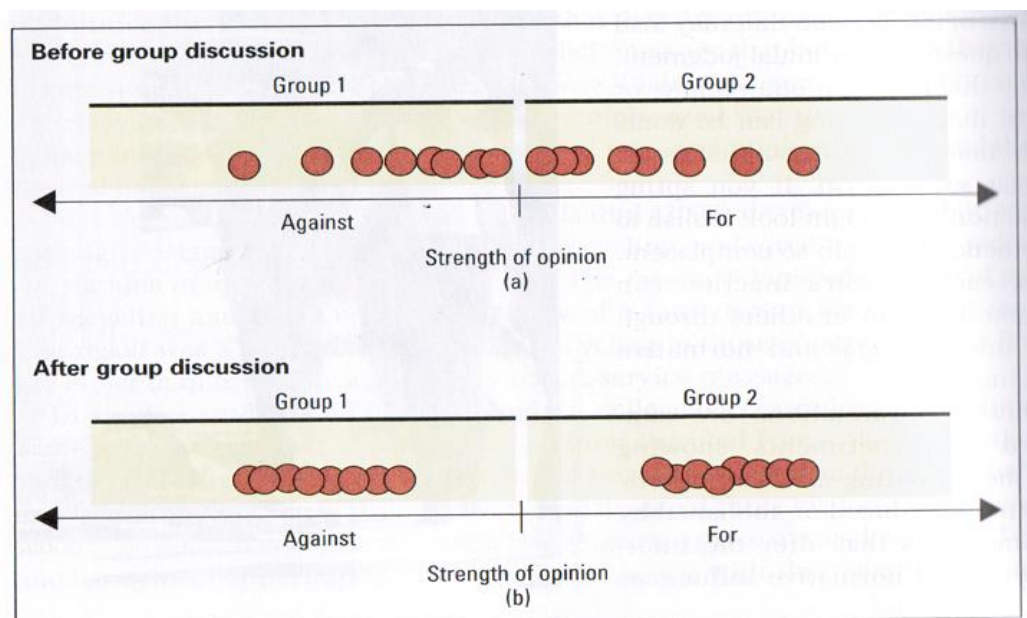
In order for the PCAS programme to succeed, it relies on positive student group dynamics and behaviour in the classroom and harsh environments such as Antarctica. “The polar environment is described as being extreme because survival is impossible for the unprotected and ill-provisioned individual” (Decamps & Rosnet 1995, p. 2). For groups experiencing this environment, whether they are on the ice for a short while, or for an extended period of time, there is bound to be conflicts of opinion. Taylor (1987) acknowledges Antarctica being different than any other place man is accustomed to, as the environment is dangerous and difficult to access.

There is an increasing amount of study in psychological adaption to groups that winter over in the polar regions, however very little literature on short-term group exposure to harsh environments. Due to this, a brief introduction to adaptation of people who winter-over will be discussed, in the framework of long-term exposure. It is unlikely that this can be generalised for short-term exposure, as other factors, such as motivation, aims and differing thresholds for change of the group and individuals must be taken into consideration. Studies conducted by Decamps & Rosnet (2005), Palinkas (2003a), Palinkas & Gunderson (1988) and Natini & Shurley (1974) assess the changing environment and behaviour of long-term winter-over staff within the ‘microcultures’ of different bases. Microcultures “are a reflection of the individual personalities of station personnel” (Palinkas 1986, p. 7). Palinkas and Gunderson (1988) describe one part of microculture as the period called ‘winter-over syndrome’. Palinkas & Gunderson (1988) define some of the characteristics as depression, irritability and hostility, insomnia, cognitive impairment, including difficulty in concentration and memory, absentmindedness, and occurrence of mild fatigue states, known as ‘long-eye’. All these symptoms can manifest themselves through being around the same people in a confined space for a long period of time. When people are chosen for winter-over positions, Carver & Scheier (1994) and Holahan & Moos (1987) recognise that predictors of behaviour are now being considered more through how people interact in isolated and confined group environments, rather than choosing people based on individual personality, or the stable traits of an individual. Emphasis on group dynamics, in order to complete the task or aim, rather than an individual’s traits, is becoming more highly valued.

The common link between winter-over and short-term exposure groups, such as PCAS, is that every group goes to Antarctica for a specific purpose, either to complete a job in a base or carry out scientific experiments in extreme working conditions. In order to correlate the two groups, similar conditions need to be experienced, as outlined in the third aim of the PCAS programme; *“translate classroom learning into practical field studies in Antarctica and introduce participants*

to the constraints of working in extreme conditions” (University of Canterbury 2012, p. 2). Living and working in this harsh environment for any period of time can produce mental and physical effects, to varying degrees in individuals and groups.

One individual’s actions can change how a group forms a decision and carries through with it, not only in a remote environment but in a general setting. In a situation where a group has been together for only a short while but gets to know their classmates very quickly, such as that of the PCAS group, differences of opinion and behaviours arise. When people are placed in a situation where they have to interact with each other in order to make a decision, social pressures are formed. Burnstein & Vinokur (1977) describe it as pressures that form when one person expresses an opinion or takes a position on an issue in front of others. Gray (2011) adds that a compromise is reached when the opinions are evenly split, however if the split is not even, the discussion or idea will be pushed to a more extreme view of the larger group who argue towards one side. This is known as ‘group polarization’ (Refer to Graph 1).



Graph 1: Schematic Illustration of Group Polarisation. Each circle represents the opinion of one individual. When the individuals are divided into two groups on the basis of the direction of their initial position (a) and then discuss the issues with other members of their group, most shift towards a more extreme position than they held before (b).

Source: Psychology by Peter Gray 2011

Gray (2011) affirms that this behaviour stems from *informational* and *normative* influences. Kaplan (1987) and Vinokur & Burnstein (1974) state that the *informational* approach produces a disproportionate number of arguments, making the other members in the group lean further towards the favoured argument. The *normative* approach is when people try to align their ideas with the rest of the group in order to “to be approved of by other group members.” (Gray 2011, p.

523) From this behaviour it may be expected that opinions within a group become more similar to one another, rather than more extreme, however they become both. Surowiecki (2004a) recognises that a better result is likely to occur from the best evidence and logic available to a group than an individual's decision, despite 'normative' and 'informational' approaches. With behaviours such as group polarisation in Antarctica, outcomes have the potential to become exacerbated. When small groups, such as PCAS, are making decisions under pressure in extreme, isolated environments, outcomes emerge that wouldn't be seen in a general situations. The wrong decisions for the situation can be made, potentially resulting in negative outcomes.

4. Effectiveness

Effectiveness is not a term that can be quantified, therefore it is usually measured by how well an aim or outcome is accomplished. The effectiveness of logistics and planning depends on what context it is used in. There are varying ranges of definitions for effectiveness. The Oxford Dictionary defines it as "the degree to which something is successful in producing a desired result; success" (Oxford Dictionaries, n.d.). The Business Dictionary defines it as "the degree to which objectives are achieved and the extent to which targeted problems are solved. In contrast to efficiency, effectiveness is determined without reference to costs and, whereas efficiency means "doing the thing right," effectiveness means "doing the right thing" (Business Dictionary, n.d.).

In order to achieve the aim of PCAS, "*understand interdisciplinary issues and conduct critical examinations*", (University of Canterbury 2012, p. 2) students' and lecturers' knowledge, understanding and ability to work as a team is necessary. Without the logistics put in by ANZ and GA, the PCAS programme would cease to exist. In this study effectiveness will be defined as the success in the organisation and management to achieve the aims of the programme, with the resources available.

Effective teaching methods and learning consists of how well the students have absorbed the information (usually assessed by tests) and ways of teaching, such as using an integrated approach as Biggs and Tang suggest. In order to achieve the first two aims of the PCAS programme, aim three, "*translate classroom learning into practical field studies*", (University of Canterbury 2012, p. 2) is vital to this learning outcome.

Effective group behaviour in remote environments is the success of a group's ability to support and make decisions. This will be the breaking point of living and surviving in remote places, such as Antarctica. In order to "*understand interdisciplinary issues, conduct critical examinations, translate classroom learning into practical field studies regarding Antarctica and the surrounding Southern Ocean*", (University of Canterbury 2012, p. 2) positive group behaviour is a necessity.

Method

In order to find the relevant literature, a thorough review of the scholarly literature on logistics, teaching methods and the learning of students, group behaviour in remote environments and the effectiveness of these was conducted. This was done to define the interview process, questionnaire design, discussion and results. Various methods of assessment were undertaken to evaluate the success of the learning outcomes for the PCAS programme. In order to pursue this aim, several methods of inquiry were used. The main method of inquiry used was face-to-face interviews. The PCAS Programme Coordinator, Director of GA and ANZ Events Manager 1 were interviewed at different times and locations. ANZ Events Manager 2 and the eleven 2012/2013 PCAS students were given questionnaires to fill out, as the secondary instruments of inquiry.

The GA coordinator and Director are in charge of the logistics behind the programme and academic content. They work with ANZ, who conduct the logistics of getting the PCAS group to Antarctica. 2012/2013 PCAS students are the recipients of all the logistical efforts put in by GA and ANZ to run PCAS.

1) Instruments of Inquiry

The three interviews were all done at different locations and different times. All the interviews were recorded with the participants' permission. All the participants, two from GA, two from ANZ and 11 students, were approached face-to-face. There was a 93% success rate as one student did not return their questionnaire. Due to time constraints, only a limited number of people were able to be interviewed. Everyone had different time schedules and working around them was key to obtaining as much data as possible. The ideal would have been interviewing the Administrator for GA, to see how much of her job is taken up with PCAS work, the Director of ANZ, to find out how much of an impact PCAS has in the year-round logistics of ANZ, and interviewing more students who had been on PCAS in previous years.

- a) The Director of GA's interview was conducted on 23 January 2013 at his office at Gateway Antarctica at the University of Canterbury. The interview was 21 minutes long, with 8 questions. (See Appendix 1 b) The reason he was chosen was because of his role overlooking the PCAS programme, as one part of many programmes in GA. He also knew what candidates would succeed in this programme and was in charge of choosing them. The Director was also the coordinator of PCAS 2000/2001 and 2001/2002 and held previous knowledge of changes that have occurred between then and now. He has the most overall knowledge of the logistics of PCAS within GA. The Director of GA's interview focused on his involvement in PCAS in the past and what changes he had seen over the years. A discussion around what PCAS

achieved on the 2012/2013 trip and what improvements could be made, especially regarding AFT was undertaken at the end of the interview.

- b) The Programme Coordinator's interview was conducted on 23 January 2013 in her office at Gateway Antarctica at the University of Canterbury. The interview was 50 minutes long, with 10 questions. (See Appendix 1c) The Programme Coordinator was chosen because her primary role is to organise and manage the content and logistics of the PCAS programme. She is the primary link to making sure the programme is run smoothly through year-round planning. The Programme Coordinator's interview focused on what could be improved from GA perspective, as well as communication between parties, and how this could possibly be solved. A timeline of the steps taken to carry out the programme on a yearly basis was discussed in depth.
- c) ANZ Events Manager 1's interview was conducted on 18 December 2012 at Scott Base in Antarctica and was 35 minutes long, with 7 questions. (See Appendix 1 a) It was conducted in his office, surrounded by other offices and office noise at Scott Base (SB). He was chosen for this interview because the PCAS coordinator had been working most closely with him, in order to plan the Antarctic Field trip component of the programme. When PCAS arrived at SB, he came to greet the group, was knowledgeable about the timetable prepared and how the logistics would be carried out. He was the most significant link between GA and ANZ before and during the field trip to Antarctica. This interview focused on his role of organising the logistics with AFT of groups and individuals who come to SB, go into the field and return back to New Zealand (NZ). This was also discussed in the context of PCAS and he gave a list of the processes that were undertaken at SB to accommodate them. (Refer to Image 3) The last part of the interview consisted of recommendations for improvements that could be undertaken to improve the current situation.
- d) The questionnaire was sent to ANZ Events Manager 2 on 4 February 2013. (See Appendix 3) It was received the following day and completed in less detail than would be obtained from an interview. He was chosen to carry out the questionnaire because he has the same position as the ANZ Events Manager 1, taking care of events that come down to SB. ANZ Events Manager 1 returned back to Christchurch halfway through 2012/2013 PCAS time in Antarctica and he took over the role of organising PCAS. During the end of the Antarctic field trip, he conducted a debrief with the PCAS students regarding issues that could be improved for the future. His questionnaire was focused around issues he felt could be improved between PCAS and ANZ, such as clarifying expectations of logistics in Antarctica.
- e) The student questionnaires were given to all 11 students on 16 January 2013. 10 out of the 11 questionnaires handed out were received back. (See Appendix 2) Students were chosen because they are the best judges of how the planning and organisation succeeded, by being the

recipients of it. The design of the questionnaires was conducted around students' experience of 2012/2013 PCAS programme, such as 'reasons why the PCAS programme may or may not have been run well'

2) Data Analysis

The data obtained from the interviews was transcribed from the recorded interviews. In every main point a word-for-word quote was recorded and highlighted in light blue. If the interviewee was discussing a relevant document, that document was cross-referenced in red. If there was any overlap of information from all three interviews, this was colour coded in green and points for the conclusion were coloured in purple. The data was then analysed by categorising it into recurring or large themes that were present in the interviews and questionnaires. These themes were: (1) positive acknowledgements; (2) documentation and administration issues; (3) AFT issues; (4) changes to the PCAS schedule and (5) student issues. Within the five categories the issues were discussed from the position of the participant who raised the matter. The data was analysed from the 10 questions presented to students and put into graphs to best represent the percentage of students who had differing opinions on a topic. Opinions and data analysed were then presented in the appropriate section of the results /discussion under the five themes.

3) Research Limitations

The following limitations occurred because of lack of time. Once all the interviews and questionnaires were conducted, there was only a three week time frame to complete this study.

- Due to time restriction, a comprehensive literature review in the four areas described was unable to be undertaken.
- It is the first time I have carried out such a large study, therefore navigating my way around the University of Canterbury database for literature took more time than was desirable.
- Due to interviewees' schedules and time restrictions, two different forms of information gathering (face-to-face interviews and questionnaires) were undertaken. This may lead to an uneven gathering of information when accessing ANZ and GA's ideas.
- Once the formal lecture part of the programme where the students were meeting every day was over, it was difficult to obtain the last student questionnaire.
- It was difficult obtaining the results from ANZ Events Manager 2's questionnaire due to his work responsibilities of having to go backwards and forwards between Christchurch and Antarctica.

- My background is not in management or logistics, but rather in languages, so analysing the undertakings of a large programme, such as PCAS, meant that considerable background reading had to be undertaken.

Results

There were many issues positive and negative, raised by all three parties. These ranged from appreciation of ANZ logistical support to the need for more documenting, taking responsibility for health and safety, as well as a better classroom environment for learning.

1 Positive Acknowledgements

The issues raised by GA, ANZ and the 2012/2013 PCAS students were all mentioned after many positive comments. ANZ states that communication between GA and ANZ is efficient as “the relationship with ANZ is good”. (Storey, pers.comm. 23 Jan 2013) “We have a good longstanding relationship with GA”. (McCarthy, pers.comm.18 Dec 2012) As a result “ANZ was able to offer a degree of programme flexibility in supporting PCAS”. (Trotter, pers.comm. 5 Feb 2013) The relationship that ANZ and GA hold is close, promoting understanding and flexibility. This is represented in the last minute change of plans of going to Cape Evans on the third day before the sea ice access was to close. Although ANZ is working under their own constraints, relying on the US Antarctic Programme for flights of equipment and personnel to Antarctica, they manage to stay dedicated to helping PCAS before, during and after Antarctica. The students also recognised both parties being well organised logistically, understanding and flexible stating that no improvements are necessary and that they felt supported and safe. The overall feedback from the three groups had more positive than negative feedback, and this needs to be acknowledged when interpreting the following results.

2 Documentation and Administration Issues

The main issues that GA raised were collation and storage of documents from year to year. The PCAS programme has been run by various coordinators over 15 years, using different computers from home and work. Over the years systems change and everybody has a different way of filing and recording documents. It has been recognised by the Programme Coordinator that “different record keeping leads to inefficiencies because {we}do not have a good overview of where documents are from previous years”. (Liggett, pers.comm.23 Jan 2013) Every year the same documents need to be filled out for ANZ and the easiest way is to duplicate the outline from those documents of previous years. However, locating them has been very difficult. These documents include activities carried out, field work, environmental impact assessment, overview of clothing, equipment in the field to be provided by ANZ, former student work, lectures and timetables. Both the Programme Coordinator and the head of GA expressed the ultimate goal would be to file the documents in a way that somebody new “can just run with the job”. (Storey, pers.comm. 23 Jan 2013)

a) Logistics Carried out by the Coordinator

Another issue was the amount of administration for the coordinator of PCAS, and the GA administrator, whose job it is to administrate the teaching of the PCAS programme. Their role is to do everything from organising the schedule for the lectures, to working with other organisations, such as Horizons First Aid to do the compulsory Outdoor First Aid Certificate (OFAC) before going down to Antarctica. ANZ, over the year, has implemented a new system where the event managers (the leader of the groups), who come down to SB, have to take on more responsibility for their group. This involves having to fill out a risk analysis document, which in past years has been completed by ANZ. The aim behind this is that ANZ “want them taking responsibility. We want the whole team member thing going really well”. (McCarthy, pers.comm.18 Dec 2012). In more recent years ANZ have requested the risk analysis and student profiles from GA sooner than other years. GA perceives this as extra paperwork and time spent getting the information from each individual student. However, ANZ sees this as a way to get to know people and their medical backgrounds, in order to prepare for potential medical emergencies well in advance. In order for ANZ to make the PCAS trip to Antarctica an enjoyable and safe experience, they need increasingly more information from GA, taking more time and effort.

As the PCAS coordinator designs what lecturers and topics are presented, a quality check of the content and presentation style is carried out. “Without knowing what they [lecturers] are really talking about , it is hard to put different aspects of the programme together”. (Liggett, pers.comm. 23 Jan 2013) As this was her first year in the role, this check was necessary to plan the following year’s lectures in relevant topics, according to what was presented 2012/2013 year. In order to conduct this quality check, the coordinator sat in on the lectures, which ran from approximately 9am-5pm every week day for nine weeks. It was very time consuming and took her away from other work she could be doing, such as replying to students’ emails and marking assignments. She states that next year she will not have to attend lectures as the quality check has already been undertaken, and will have more time for other PCAS programme related activities.

As well as working with ANZ and Ministry of Foreign Affairs and Trade (MFAT), GA works with many other organisations and individuals to carry out the PCAS programme. These are primarily with the organisation involved in presentations for lectures and field trips, as outlined on the schedule. Some of the lecturers came from other universities around the country, where their flights and accommodation are paid for by GA. These lecturers are asked personally by GA and teach topics such ‘The State of the Southern Ocean’ by Jose Xavier or ‘Atmospheric Chemistry’ by Katja Riedel or ‘Psychology’ by Gary Steal. Some lecturers are volunteers, especially those from ANZ, such as Lou Sanson. The PCAS coordinator states that timetabling is

difficult when a lecturer cannot make the time slot allocated to them, however she acknowledges “that’s what happens when dealing with other people and their commitments”. (Liggett, pers.comm.23 Jan 2013) The same occurs when dealing with organisations involved in conducting the field trips. Field trips for the 2012/2013 year consisted of going to the Antarctic Centre, Canterbury Museum, Colin Monteith’s Hedgehog House, Banks Peninsula geology trip and Cass preparation field trip.

i) Cass Preparation Field Trip

This is a two night field trip to Cass in the Southern Alps of the South Island. It is a trial run for preparing to go to Antarctica. The aim is to see if people are willing to pull their weight with duties and test their fitness, which is necessary to help contribute to the group’s dynamics of digging in Antarctica. It is also to promote bonding between the group, as it is necessary for trust and safety in a remote environment, such as Antarctica. From a logistics point of view, the Cass field trip involves a lot more than other field trips.

- Organising of vans and food
- Creating a list of gear everyone has to pack, eg. water bottles, sand-fly repellent
- Working out what AFT is undertaken at the Cass and what will be overlap of ‘full’ training in Antarctica?
- Arranging with ANZ about what gear needs to be taken out for demonstration, eg. layers of clothing, a tent and food boxes. (Refer to Image 1)



Image 1: Putting up a polar tent for Antarctic Field Training at Cass.

ii) Timeline of Responsibilities for Coordinating 2012/2013 PCAS Year

<u>Date</u>	<u>Process</u>	<u>Documents Needed</u>
<u>Before Antarctica</u>		
First Quarter	Negotiate with ANZ about whether PCAS can go with regards to ANZ logistical capacity and when.	
January - March 2012	Start advertising for the PCAS programme for the next year.	Contact forms of advertisement
May	Meet with ANZ to set up PCAS field component plan. Once activities are planned, fill out an environmental impact assessment PEE (Preliminary Environmental Evaluation). This has to be approved by Antarctic Policy under Ministry of Foreign Affairs and Trade (MFAT). Application for entry into Antarctic Specially Protected Areas, such as Cape Evans Hut which have to be completed as part of the PEE.	Apply for PEE (MFAT) ASPA Permit
June	Write lengthy report to ANZ on PCAS regarding field components, teaching parts and assessment and student progress by ANZ in the past year.	Lengthy Report to ANZ
June	Hear back from MFAT if their PEE is accepted.	Accepted PEE (MFAT)
June - August	Write a Risk Assessment for ANZ. It is a comprehensive document around human health and safety and the environment. This is written before the students have been chosen for the programme.	Risk Assessment (ANZ) Risk Register and Event Risk Management doc
July	Application forms for PCAS programme will be on the website all year round but have to be updated by July.	Application forms
July-September	Think about what equipment is needed in Antarctica for Environmental Projects, how to ship it in advance through ANZ and end up in the K220 cage at Scott Base. Items such as the weather station and GPR (Ground Penetrating Radar).	
August	Process and accept students on to PCAS.	Go through application forms
September	Attend ANZ awareness training for Scott Base staff and Event managers.	
September-October	Communicate with ANZ about what you want to do and when while you are there. In conjunction with them draft a plan that works in with their use of Scott base, vehicles because they have to set two AFTs.	Field Activity Plan
September-October	Think about equipment needed for the field and fill out three tab document to send to ANZ for them to prepare.	Equipment List (3 tab Excel document)
September	Send out and create PCAS student programme guidelines.	PCAS Student Guide
September	Plan out lecture and field trip time-table and contact all relevant parties.	Schedule / Timetable
November	Organise Cass field trip and gear to take.	List of items to

		bring to Cass
October (Before onset of programme)	Students and tutors complete medical to send to ANZ.	Medical Examinations
October-November	Fill out Risk Assessment for University of Canterbury for all Field trips (Antarctica Field Trip takes the longest). <ul style="list-style-type: none"> a. medical issues b. environment going to c. own readiness and preparedness d. weakness of health and safety e. issues, that arise and ways of dealing with issues that may arise 	Risk Assessment for University of Canterbury
Mid-November – Late January	Classes and student contact In class from mid-November to late-January .	
November	Send photos and bios of all the students to ANZ. ANZ needs to be informed of all the event members as well as their backgrounds personal info, emergency contact details and photos.	Personal Contact information form
November	Go on Cass field trip and fill out clothing size sheet.	Clothing sheet
December	Assessment and marking of students literature reviews.	Literature review
December	Carry out first aid training, a necessity for going down to Antarctica. Carried out by Horizons Limited	First Aid Training Handbook
<u>While in Antarctica</u>		
December/January	Revise changes to the PCAS programme with AFT's and Programme Support Supervisors depending on conditions such as the sea ice.	PCAS Programme V1.1
December	Carry out field projects and make sure there is sufficient equipment.	
December	Have meetings with AFT and Event Management staff re safety, constantly changing plans, going out into the field and making sure equipment is right.	
January 2013	Study on how much of an impact PCAS created at a site run by ANZ and completed at SB. Divided into ASPA report, environmental report, general report and feedback on logistics.	Environmental Performance Report
<u>Returning from Antarctica</u>		
January 2013	Complete Visit Study on how much of an impact PCAS created at ASPA sites.	Visit Report
February	Meet with ANZ on issues that arose and ways of mitigating these.	ANZ Report
February	Mark students' field studies x 3 per students.	Field Studies
February	Mark students' Syndicate Projects.	Syndicate Projects
March	Mark students' Individual Projects.	Individual Projects

3 Antarctic Field Training Issues

ANZ's culture over the past year has changed, leading to several alterations around AFT. These noticeable changes have been expressed through several parties regarding what activities need to be covered in order to complete AFT. Misunderstanding from both students and GA is currently present around when and how much AFT can be completed, before departing for Antarctica.

a) Overlap of information

The Director of GA and previous coordinator for PCAS programme in 2002/2003, has seen various changes over the years. After last year ANZ and GA did studies on aspects of the programme that could be managed better. GA reveal there was an overlap of skills taught at Cass by the ANZ AFTs and that of different AFTs at SB. The message about what was taught at Cass was not passed on to SB AFTs, creating a double-up of information taught. Although repetition in the field is a tool to learning, communication between the AFTs was lacking. This problem occurred to a lesser degree in the 2012/2013 year.

b) Defining what is included in AFT

There has also been an issue about how much field training activity GA does independently of ANZ's AFT. It is compulsory to have an OFAC before departing for Antarctica. This has been an activity factored into the PCAS schedule. It is a two-day full time course and was run by Horizons Limited who are "Christchurch's most active training providers" (Horizons Limited, 2012) for outdoor education. They are asked to run a specific Pre Hospital Emergency Care Antarctic Studies Programme Outdoor First Aid Course for PCAS. This information does not overlap with any information given by the AFTs, however questions from GA still remain as to whether this is part of the AFT or not. Over the years it has been unclear what is involved in completing AFT and the time needed to do this.

c) Changing Culture in Antarctica New Zealand around Antarctic Field Training

In previous years one of the four tutors came as an Antarctic Field Trainer to the ice, which meant ANZ had a smaller role around health and safety. The director of GA was not happy about this and was encouraged by the more active role SB AFTs played in the 2012/2013 year, rather than placing charge on the tutors. Currently, ANZ is in the process of changing the culture of shifting responsibility. He states it "was their responsibility for our safety, but now it is your responsibility for your own safety" (Storey, pers.comm.23 Jan 2013). They are passing the accountability for safety and leadership onto the events themselves. Unlike in past years, they are

giving events the tools of how to manage safely as a group. One of the ways they have done this is by working with groups through the Zero Harm handbook they have created. This has an outline of team leader and team member roles, which ANZ are going through this with events. (Refer to Image 2) Due to the recent reshuffling of ANZ culture of taking responsibility, guidelines have not been successfully communicated to GA regarding the aim and purpose of AFT, and therefore what needs to be completed.

Team Leader Team Member I know and understand my role in our team	
TEAM LEADER	TEAM MEMBER
<ul style="list-style-type: none"> ◆ Define context and purpose. “Why are we doing this?” “What problem are we trying to solve?” ◆ Identify critical issues. ◆ Encourage contributions. ◆ Make decisions. ◆ Assign clear tasks. ◆ Monitor. ◆ Coach. ◆ Review. 	<ul style="list-style-type: none"> ◆ Understand context and purpose. Seek clarity if you are not sure. ◆ Identify critical issues. ◆ Listen to others and offer contributions. ◆ Accept decisions. ◆ Clarify tasks. ◆ Perform work. ◆ Seek feedback and advice: “How am I doing?” ◆ Review.

Image 2: The role of a Team Leader and Team Member as seen through Antarctica New Zealand’s

Source: Antarctica New Zealand’s Zero Harm Handbook

4 Changes to the PCAS Antarctic Schedule

While PCAS was down in Antarctica, there were many changes that occurred to the schedule. One in particular was raised by ANZ’s Events Manager 1 who suggested that PCAS come a week earlier from the usual mid-December because of the melting condition of the sea ice. “We experienced this last year. I think on the day they arrived we closed the sea ice because we had a bulldozer go through the sea ice”. (McCarthy, pers.comm. 18 Dec 2012) When the sea ice is closed due to safety reasons, access to Cape Evans and viewing of wildlife is dramatically reduced, limiting the activities PCAS can undertake. Shuffling of the schedule has been a recurring problem, as demonstrated by the 2012/2013 PCAS group’s schedule being rearranged so that they could go to Cape Evans on the third day, not having fully completed the AFT. ANZ were very

flexible in the allocation of vehicles in allowing PCAS to carry out this trip, due to their acknowledgement on the deteriorating condition of the sea ice.

It has been a tradition for PCAS to spend Christmas at field camp, however if the schedule was to change, it would mean they would return back to NZ before Christmas. The reason they are not at SB on Christmas Day is because the SB staff have a public holiday and do not want the responsibility of having to look after groups on their day off. 2012/2013 year presented the issue of the impending closure of the sea ice, as well as making sure PCAS were out in the field long enough to overlap with Christmas. The logistics behind planning this, involved meeting with AFTs and event managers to work out the equipment needed for the field and how and when it was to be transported. Although the ANZ Event Managers and AFTs job is to work out the logistics of events, for a large group, such as the 18 PCAS participants, it requires precise planning. Image 3 is the standard events process that a typical group coming through ANZ will undergo in order to carry out their science projects in Antarctica. PCAS would also be included in this flow diagram, representing the process PCAS went through and the amount of logistical effort ANZ provides year after year for the programme. Changing when this process happens, to the beginning of December, may overlap with other events and their need for the same logistic help. Looking at the wider picture, it is not as easy as changing the dates, as other group logistics coming to SB need to be taken into consideration as well.

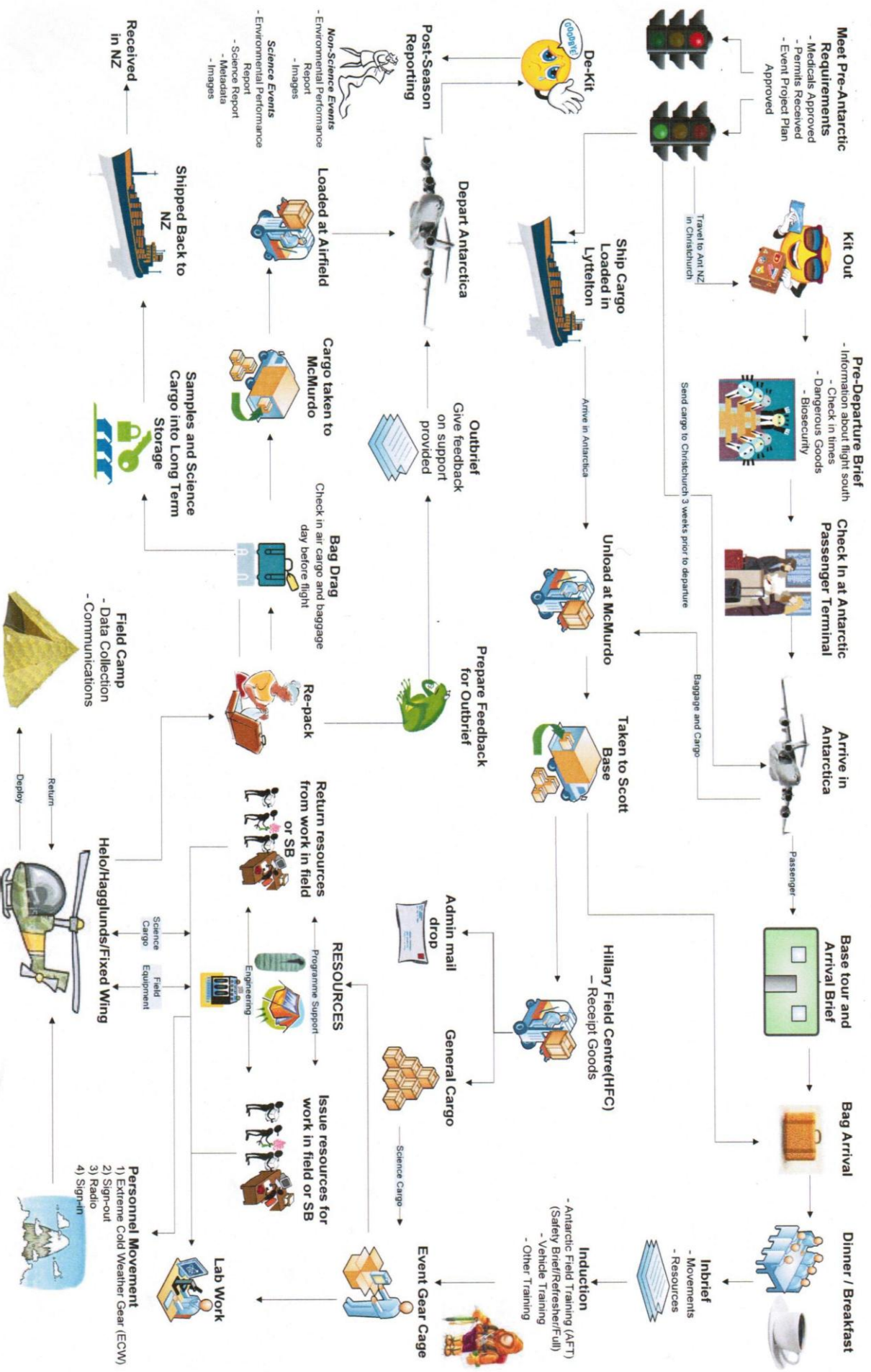
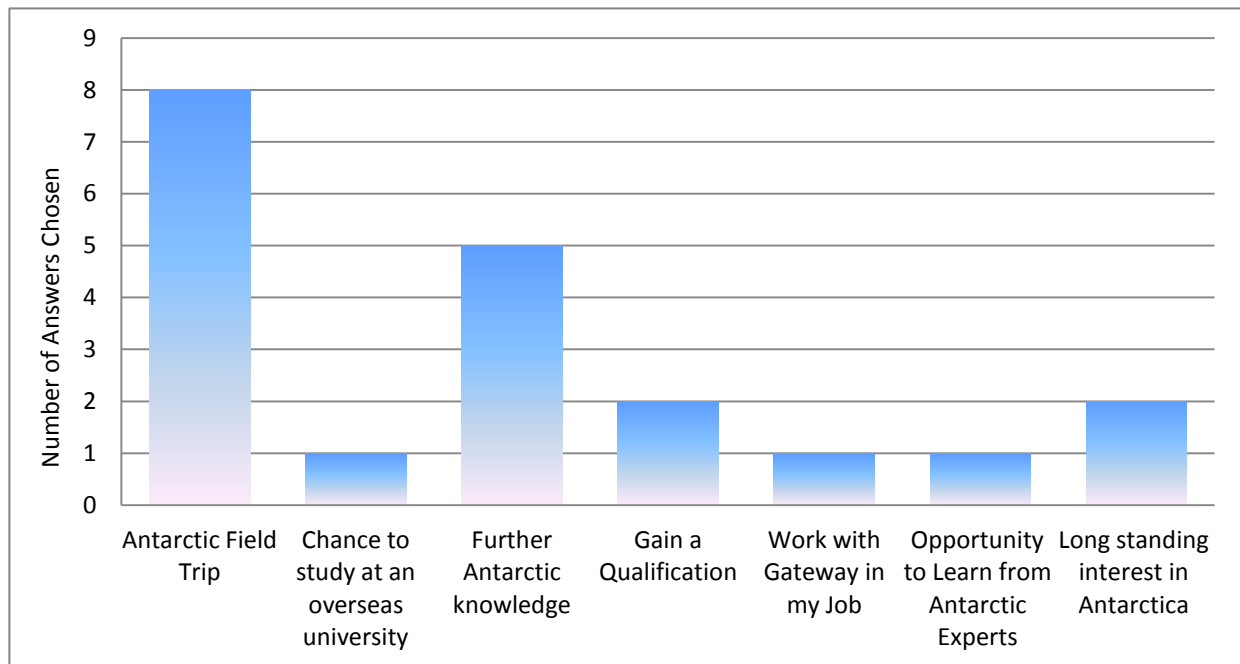


Image 3: Generic Event Process: Event Personnel Touchpoints. This represents all the possible avenues involved in the organisation of logistics through Antarctica New Zealand.

Image Source: Antarctica New Zealand

5 Students Issues

The students are the people who gain the benefits of all the logistical effort that has been put into the PCAS programme. They can then be the best ones to analyse what has worked successfully and what needs to be improved. These students chose to apply for PCAS for many different reasons. Graph 2 below shows the different reasons 2012/2013 students applied to take the PCAS programme. Students chose two answers, for this question which are down the right side of the graph.



Graph 2: Attraction to Apply for PCAS. Students were able to choose two answers

The majority of students applied for the programme because it had the opportunity to go to Antarctica included. This was closely followed by the chance to further their Antarctic knowledge. The motivation and attraction of a student to do PCAS will influence their participation and the amount of effort put into assignments and prioritising of time they will put into the programme. Due to the fact every student has different priorities and goals they are aiming to achieve from this programme, different issues will arise for each individual student. (Refer to Appendix 4 for all the issues raised)

a. Weighting of Assignments and Other Issues

Every one of the students thought that PCAS was run to a very high standard and were mostly satisfied with the content. However, the issues that were brought up several times were the amount of assignments and the short time frame that was available to complete them to the

highest standard possible. Due to time restrictions, the weighting of the assignments was unbalanced. Assignments were due usually on a Friday at 5pm, meaning that there would be poor attendance to class as students would stay home to complete the assignments. In the PCAS Student Guide it lays out performance expectations and assessments for students.

In view of the unique nature of this programme, particularly the inclusion of an Antarctic field component, a high level of student participation and interaction are expected. In particular students are required to

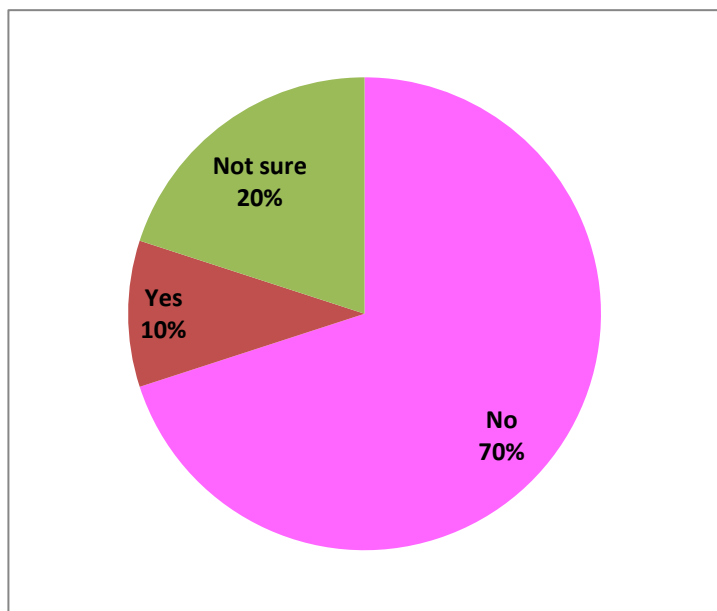
- *Attend all lectures and programme activities (the course coordinator must be informed if this is not possible)*
- *Attend the preparatory field trip to Cass from 21-23 November 2012 (compulsory)*
- *Interact positively with other students and staff*
- *Submit assessments on time*
- *Submit a high quality literature review and project proposal as required during the course*

(University of Canterbury 2012, p10)

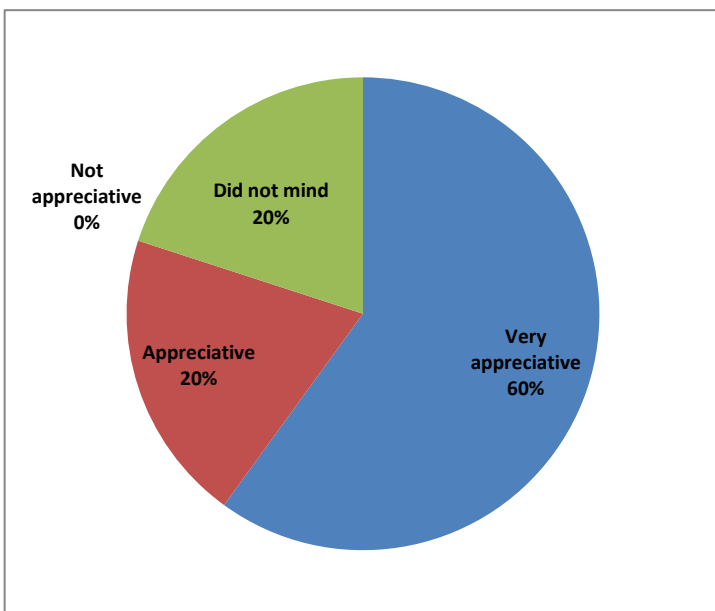
To some students these expectations were just guidelines, but others interpreted them as compulsory. This raised comments such as the need for more importance to be put on attendance and punctuality. Another issue raised was expectations surrounding the need for personality screening regarding interacting positively with other students and staff before being accepted on to the programme. This also led to a similar comment for the reinforcing of team bonding early on in the programme, possibly on the Cass camp.

b. Field Trip Issues

The majority of students thought Cass camp was beneficial in order to prepare for Antarctica. However, the appreciation for other field trips was divided. One opposing reason was that some students did not feel they gained any significant extra knowledge from them. On the other hand, a supporting reason was to provide a break from sitting in the same classroom all day and the chance to interact with a new environment. 70% of students said they did not want to see any more field trips added to the programme as they did not feel it was adding more to their learning. (Refer to Graph 3 and 4) However from the field trips that were conducted, 60% of students were very appreciative of them. This indicates that the number of field trips currently in the programme does not need to be increased or decreased.



Graph 3: Students who would like to see more field trips added.

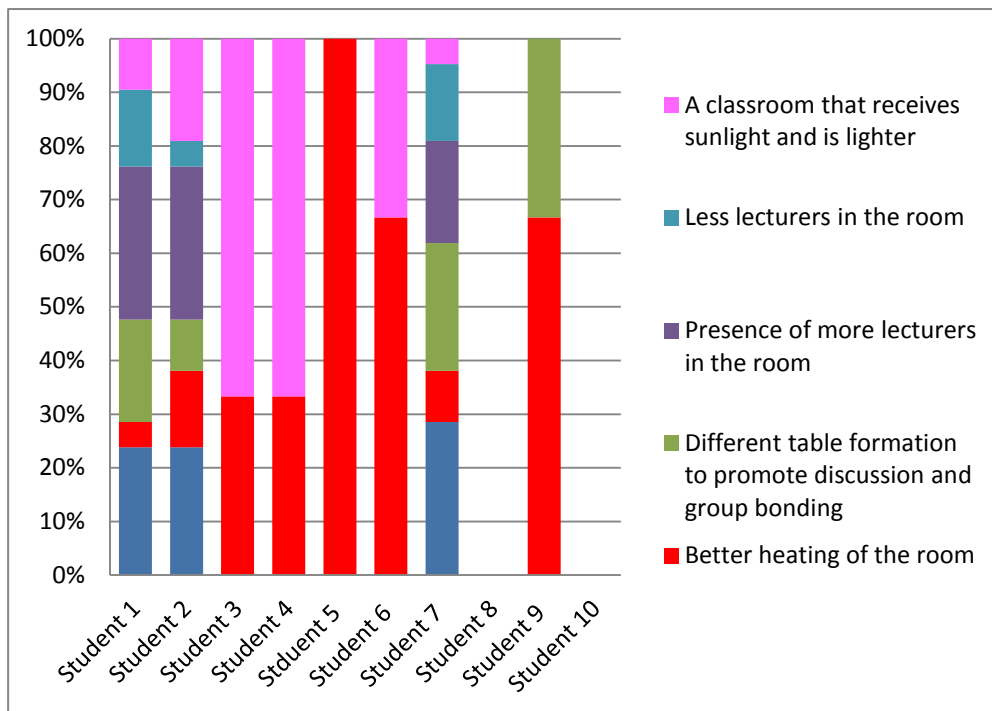


Graph 4: Those students who are appreciative of field trips.

c. Classes and Lecture Content Issues

Lecturers are always striving for the most effective way of teaching students in the environment they are provided with. Students in the 2012/2013 PCAS year have identified issues of being frustrated with the long breaks, in lectures and between lectures. They felt that their concentration lapsed further, the longer the break, with more time being lost at the end of the day that could be used for assignments. This was also seen in lectures that were three hours long, even if the topic was interesting. Response to the content of the lectures was mixed. Some students thought there was too much 'hard science', lacking in social science aspects of Antarctica. On the contrary, the students who had science backgrounds did not think the 'hard science' was covered in enough depth.

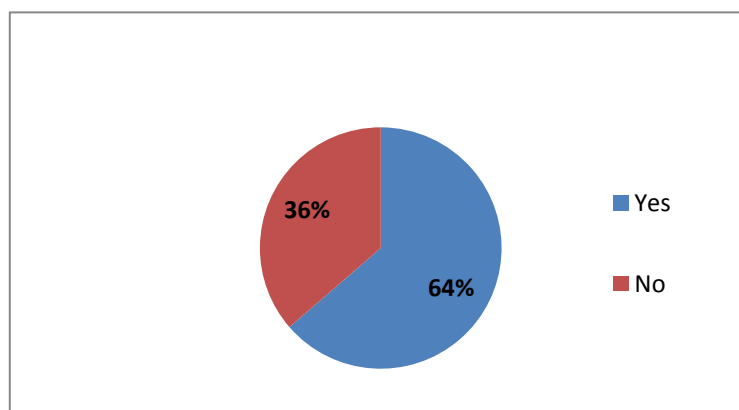
The classroom environment may be a contributing factor to the way in which students learn. Many students decided that the most important thing about the classroom environment is that it receives more sunlight and has better heating of the room. (Refer to Graph 5) The aspects students cared less about were if the lecturers were in the room or not. It is unclear whether these aspects had a direct relationship on learning, however these are points that could be improved. In Graph 5 below Student 8 and Student 10 do not have any data because they did not see this question as relevant towards improvement of learning.



Graph 5: Improvements that could be made in the classroom.
Student 8 and 10 had no opinions.

d. Outdoor First Aid Certificate Issues

Every student comes to PCAS with different first aid knowledge and qualifications. There were several students who had already completed general OFAC. They felt that the content of Horizons course dedicated to the Antarctic environment, had significant overlap with the qualification they had already gained. This led them to indicate that the Horizon first aid course was not catered specifically towards life in an Antarctic environment. (Refer to Graph 6) Although this is not stated, another reason why 36 % indicated it was not aimed at first aid in Antarctica, could be because the two tutors had never been to Antarctica. Those people who indicated the programme was centred more towards life in Antarctica were those people who had not completed an OFAC. This meant that all the information was new for them. Those who already had OFAC thought this was a waste of two days and the money paid in their course fees. Students raised the same concern as GA regarding how much of the first aid certificate is included in AFT.



Graph 6: Percentage of students who thought Horizon Outdoor First Aid Course was catered more towards the outdoors in Antarctica than New Zealand.

e. Logistics undertaken by students

Students go through many emotional and physiological ups and downs before, during and after the PCAS programme. Before the programme begins, worries exist about who will be in the class and if students will be able to form friendships. The first part of preparing for the programme happens when the application is being filled out. This is a huge step in the self-realisation that students are committing themselves to completing the programme, if chosen. This programme usually comes at the expense of time and their previous lifestyle of either a job or previous study. This decision by most students was not made lightly. Once accepted to the programme, receiving the PCAS student guide and schedule prepares the students mentally for the amount of work ahead, which is explicitly explained in the handbook on page 10.

In order to prepare for the programme, the necessary preliminary reading is carried out. Due to other commitments, the reading list that is sent around before the programme begins is not always completed, which can lead to students feeling unprepared for the first day of class. The realisation of the amount of time and work needed to complete the assignments does not come to many students until the impending deadline of the first literature review. Preparation for this involves research using the library catalogues, which some students may not be familiar with. Students devote the same amount of time to being in class and attending lectures as completing assignments. However, the syndicate and personal assignments were completed the weeks following the completion of lectures. Syndicate work presented different logistical difficulties of having to meet up as a group. Some people lived in Christchurch permanently and had a life outside of the 9am-5pm PCAS contact hours. Others from overseas were not settled and had nothing but study to do while in Christchurch. Organising times to meet up was sometimes difficult.

i) Preparation for Antarctica

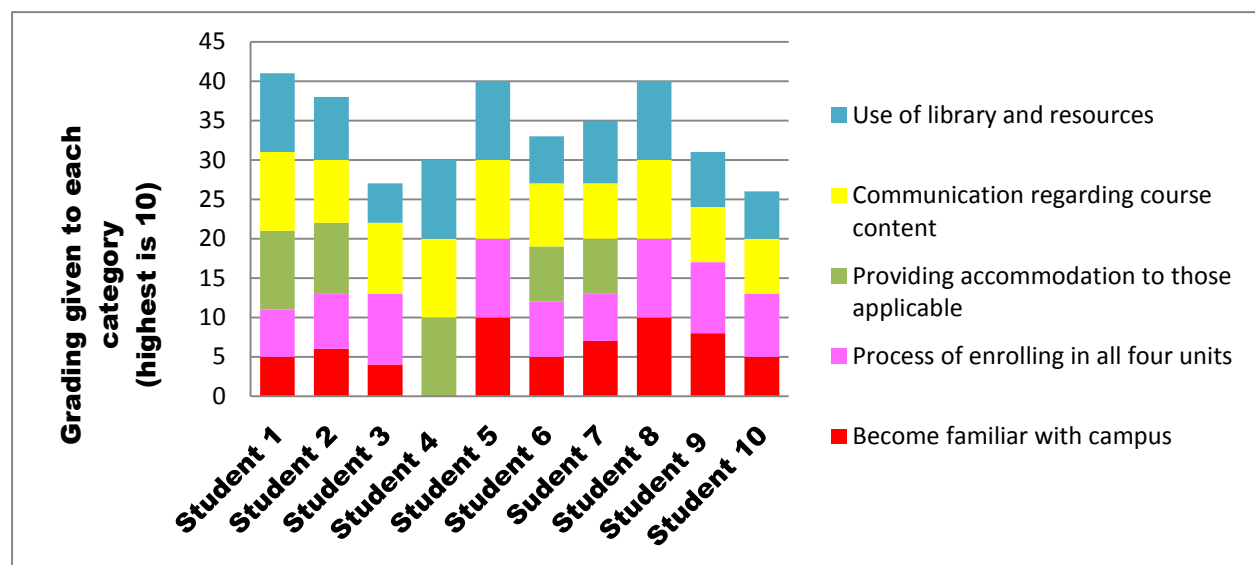
The mental and physical preparation provided by GA and ANZ for Antarctica was sufficient. As represented by the student comments above, ANZ was excellent in AFT, clothing and equipment, and in mentally preparing students. The 'to bring' list set by GA and ANZ was very valuable and made packing easier. Completing the medical assessment was very costly and one student mentioned it was a shame it was not included in the course fees. The filling out of clothes sizes, bios and personal information did not take much time, but made students realise the wider logistics behind getting a large group down to Antarctica.

The most efficient aspects of PCAS for a student was the 'to bring' list to Cass and Antarctica. The second was the mental preparation provided by ANZ when a tour was conducted

around ANZ early on in the programme. The least efficient was the AFT carried out at SB and the lack of knowledge about what AFT was and what needed to be completed.

f. Other Issues

Other issues that were brought up consisted of the difficulty of enrolment for students. Acceptance into the programme and payment of the programme did not run smoothly for some students. For one student this lowered his image of the University of Canterbury before he even arrived in New Zealand. Other students had differing opinions of the University of Canterbury. For most students enrolling, being shown how to use library resources and communication from GA regarding programme content was satisfactory. (Refer to Graph 7) Providing accommodation and becoming familiar with campus could be improved.



Graph 7: Satisfaction with the University of Canterbury. Most students were satisfied with communication regarding course content and ability to use the library and its resources.

Recommendations

While the relationship between ANZ and GA is close, there are a number of issues that could be improved. These are some recommendations that could be done to remedy these inefficiencies practically, and what this might mean for the future of PCAS.

GA raised many issues surrounding the recording of documentation, and the amount of work that the coordinator has to undertake. As the coordinator has too much work, a second assistant over and above the GA administrator, would be beneficial during the 14 week period of the programme when there are student contact hours. This may also allow for streaming and formally recording, cataloguing and archiving the current documents that are difficult to locate. In order to carry out this process properly, the ability to catalogue these documents in one universal network that can be accessed from home, work, or wherever the person is, would be useful. For the health and well-being of the 2012/2013 coordinator in the following years of PCAS, fellow colleagues need to be aware of the increasing amount of work required, as ANZ's demands increase, and make sure that she abides by her decision to not be present in lectures next year, to complete other PCAS work.

The relationship between ANZ and GA is strong, however communication can be tightened around various issues. As the culture of ANZ is changing, through event managers taking on more work, better direction and warning of the changes that will be occurring, is necessary. In order to factor in the extra work of filling out risk management documents and acknowledging responsibility for the group safety, faster communication may aid with the work load. As the ANZ culture changes, an easy way to solve the confusion around what AFT consists of is for a checklist to be created of activities and skills that need to be learnt and completed. This would benefit the tutors and students as they would not have the feeling of being trapped inside Scott Base and not knowing what AFT they still have to complete to allow them to venture outside. This would lead to better clarification from both parties about what AFT is necessary before going to ANT and how much can be completed by AFT at Cass. Also, it is currently unclear to the students whether the compulsory OFAC is part of the AFT. This could be cleared up through the creation of a checklist and communication. Those students who had stated they already had an OFAC may find it more reassuring to know that completing one in PCAS would be beneficial for group bonding and reassuring for the tutors to know that all students have done the same course. Providing first aid tutors that have been down to Antarctica may encourage those students who have already completed OFAC that this training is specifically for an Antarctic environment and therefore necessary.

Further communication between GA and ANZ needs to occur regarding the practicalities for PCAS to come down to SB earlier in December, due to the sea ice conditions. This decision cannot be made easily, as it may overlap with other events and their need for the same logistical help. Looking at the wider picture, ANZ Events Manager 1 states it is not as easy as changing the dates. Flexibility of both parties is the key to carrying out PCAS' aims while in Antarctica. In order for this process to run smoothly, constant communication on the aims and outcomes of what PCAS would like to achieve is necessary. This has to be factored around issues that are out of the control of GA, such as the closure of the sea ice, weather conditions and flights run by the US Antarctic Programme. The necessity to be flexible and work together with ANZ is very important to cover the aims and outcomes of the PCAS programme.

Students of 2012/2013 PCAS programme were very impressed with the logistics of the programme. They felt adequately mentally prepared for going to Antarctica. This was thanks to ANZ and GA for their year-long logistical efforts. In order for the programme to run more efficiently in the future, recommendations by students around course content were high. The first is moving the deadline of assignments to before class on the morning of the day it is due, rather than 5pm that day. This would allow for higher student class attendance, as it was always low on the day assignments were due in. As outlined in the student handbook, this is a recognised postgraduate programme with a very high workload, however having due dates of assignments changed may balance the load. One suggestion is having the two field reports due on the Friday and the environmental project due on the following Monday. Although the lecture content overall was received well, recommendations around the length of the lectures were made. Three hour lectures could have easily been reduced to two hours, with fewer breaks to allow for more focused learning. In the future it may be beneficial to have a brighter and warmer classroom, which may promote better concentration.

Conclusion

In order for the PCAS programme to run smoothly, help and support from outside organisations is vital. The current management, organisation and the logistics behind this is set on a 15 year solid foundation. The recommendations around issues raised would strengthen this foundation further. In order for PCAS to continue in its success, constant communication between all three parties is necessary. This would ensure an even more enjoyable programme for the students and, at the same time, create less work for those people in charge of its logistics.

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Glossary

AFT -	Antarctic Field Training
ANZ -	Antarctica New Zealand
GA -	Gateway Antarctica
MFAT -	Ministry of Foreign Affairs and Trade
NZ -	New Zealand
OFAC -	Outdoor First Aid Certificate
PCAS -	Postgraduate Certificate in Antarctic Studies
PEE -	Preliminary Environmental Evaluation
SB -	Scott Base

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Appendix

Appendix 1 – Interview Questions

a) Peter McCarthy 2.07pm on 18 December 2012 at Scott Base

1. What is your role at Antarctica New Zealand?
2. After May what are the precise processes that you go through?
3. What are some issues that came up from debriefs in the past and this year?
4. What is the debrief process with Scott Base staff and Event Managers to organise the field camp?
5. What are some improvements that could be looked at?
6. How efficient is communication between Gateway Antarctica and Antarctica New Zealand?
7. In order to solve the issues of bringing PCAS down to the ice earlier, what needs to be done? Is it as easy as communication between parties?

b) Bryan Story 1.15pm on 23 January 2013 at Gateway Antarctica

1. What is your role at Gateway Antarctica?
2. What is your role in PCAS 2012/ 2013?
3. What did your involvement in PCAS in the past entail?
4. What are some of the things that have changed over the years?
5. Bryan asks – I'm interested what field training did you do before you went to Cape Evans?
6. How has the preparation with Antarctica New Zealand worked in NZ, such as going to Antarctica New Zealand and getting kitted out on another day?
7. What has your participation been choosing the lecturers and the content of the programme?
8. Can you think of anything that could be changed?

c) Daniela Liggett 10.15am on 23 January 2013 at Gateway Antarctica

1. What is your role at Gateway Antarctica?
2. Have you been involved in PCAS in the past?
3. When did it change from GCAS to PCAS?
4. Are there any inefficiencies in the administration of PCAS at the moment?
5. Did the previous coordinator have assistance?
6. If there are inefficiencies, how could these be improved?
7. What goes into the organisation of sending PCAS to the ice from Gateway Antarctica's perspective?
8. What are the logistics behind the field trips to Cass, International Antarctic Centre, Banks Peninsula, Canterbury Museum and ANZ?
9. What were some logistical difficulties working with Anta NZ?
10. What takes most of your time and resources for organising the academic side of PCAS as a coordinator?

Appendix 2) - Student Questionnaires conducted on 16 January 2013 in the classroom and by email

My individual project is critiquing the logistics and beyond of the PCAS programme and how it could be improved for the future. This includes the academic side of the programme as well as our trip to Antarctica. As part of this I would like to get students ideas regarding these two topics, so please answer as honestly and in as much detail as possible. I would appreciate your time to fill out this questionnaire below. Your answers will also be viewed by Antarctica New Zealand and Gateway Antarctica.

1. What attracted you to apply for PCAS?
2. Do you think PCAS programme content was well organised? **Yes / No**
How so?
3. What feedback would you like to give to Antarctica New Zealand regarding the logistical support for PCAS in the field?
4. How appreciative are you of the field trips to Cass, International Antarctic Centre, Museum, Antarctica New Zealand, Colin Monteath etc. (Appreciative =1, Very appreciative =10)
1 2 3 4 5 6 7 8 9 10
5. Would you like to see more field trips added to this programme? **Yes / No**
If so, where to?
6. Since most of your time was spent in the classroom, what improvements would you like to see to the classroom environment (please number your priority from highest as 1 down to 5)
 - a. More tea and coffee available
 - b. Better heating of the room
 - c. Different table formation to promote discussions and group bonding
 - d. Presence of more lecturers in the room
 - e. Less lecturers in the room
 - f. A classroom that receives sunlight and is lighter
7. How has Canterbury University helped (1 = poor – 10 = excellent)
 - a. You to become familiar with the campus. 1 2 3 4 5 6 7 8 9 10
 - b. Process of enrolling in all four units. 1 2 3 4 5 6 7 8 9 10
 - c. Providing accommodation for those applicable. 1 2 3 4 5 6 7 8 9 10
 - d. Communication regarding programme content 1 2 3 4 5 6 7 8 9 10
 - e. Use of the library and resources 1 2 3 4 5 6 7 8 9 10
8. The completion of Horizons First Aid course is a necessity for going to Antarctica. Was this First Aid course catered towards life specifically in Antarctica rather than to a NZ environment?
Yes / No
What improvements could be made to the programme?
9. How can the organisation of the programme be improved for future PCAS groups?
10. General comments:

Appendix 3) - Simon Trotter's Questions sent to him on 4 February 2013

My individual project is critiquing the logistics and beyond of the PCAS programme **and how it could be improved for the future**. As part of this I would like to get Antarctica New Zealand's ideas regarding points that could be improved logistically when working with PCAS / Gateway Antarctica **before, during and after getting back from the ice**. I have already interviewed Peter McCarthy.

I would appreciate your time filling out this 9 question questionnaire below.

1. What is your role at Antarctica New Zealand – can you provide a bit of a description?
2. Have you been involved with helping PCAS down to Antarctica in the past?
 - a. Yes /No
 - b. If Yes, how often and when?
3. What are some of the logistical difficulties in getting PCAS to Antarctica?
4. What are some things you have found to be successful with working / communicating with Gateway Antarctica?
5. What are some things that you think need to be improved on working / communication with Gateway Antarctica?
6. How can these challenges be addressed?
7. What were some of the issues raised at the debrief you conducted with us on the last day we were together as a group in Scott Base?
8. How are these issues being handled?
9. Do you have any other issues or general comments you would like to raise?

Appendix 4) - Issues raised by the students

Course Work / Assignments
<ul style="list-style-type: none"> • Work load was too much for short amount of time available • Personal project proposals due to soon • Field /Environment reports were due to soon • Weighting of assignments is in proportional to amount of time put into them x 2 • Possibility of moving deadline of assignments to the morning before class rather than 5 pm, attendance was always low the day assignments due in • Environmental project due on the Monday after two field reports on the Friday previously
Classes
<ul style="list-style-type: none"> • Frustrated with long breaks between lectures • More importance needs to be put on attendance and punctuality x2 • More focused lectures, 3 hours was too long, 2 hours at the max
Antarctica New Zealand Input
<ul style="list-style-type: none"> • Very well organised and felt supported • Fantastic - no improvements necessary • Really good • Fantastic - felt supported and safe • Amazing - couldn't have asked for anything better • Excellent - well organised and good safety culture • Fantastic - very flexible • Fabulous - never felt abandoned and thanks to ANZ a wide range of activities was able to be undertaken • High standard of logistical support • Excellent support • Couldn't have been better
Field Trips
<ul style="list-style-type: none"> • Let people who come from overseas know that sleeping bags can be borrowed for Cass - so do not have to bring one • More field trips would not add anything more to PCAS programme • Cass Field trip was beneficial but other field trips were not because we can do them independently
Lecture Content
<ul style="list-style-type: none"> • Have more lectures on NZ sub-Antarctic Islands from ANZ point of view • Concentration of lectures in first half of programme was too much - could be spread over whole course • Social science was lacking and too much 'hard science'
Social Aspects
<ul style="list-style-type: none"> • More social reinforcing - more team bonding early in the programme • Personality screening could be beneficial before being accepted on the course • More focus on class participation x2 • Was embarrassed to be a PCAS student due to behaviour amongst class members

First Aid Certificate
<ul style="list-style-type: none"> • Would be better if it was conducted by people who have been to Antarctica
<ul style="list-style-type: none"> • Would be better included in AFT in Antarctica or in AFT before going to Antarctica
<ul style="list-style-type: none"> • Some people have outdoor first aid qualification and it would reduce cost of PCAS programme not having to complete the course again
Other
<ul style="list-style-type: none"> • Enrolments for international students were a nightmare -acceptance and payment of course didn't work out